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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/398,189	09/17/1999	JUN KANAMORI	IIZ.008D	9755

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EXAMINER

RAO, SHRINIVAS H

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 04/29/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/398,189

Applicant(s)

KANAMORI, JUN

Examiner

Steven H. Rao

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 February 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-6 and 23-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-6 and 23-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 19.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Response to Amendment

Applicants' amendment filed February 04, 2002 has been entered on Feb. 22, 2002.

Therefore claims 2 -6 and 23-24 as amended by the amendment and presently newly added claims 25-29 are currently pending in the application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 2-6, 23 and 24 and 25-29 etc. are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Independent claims 23 and 24 as well as claim 6 all recite "First annealing" and "second annealing" steps.

The specification describes only first and second RTA steps therefore to the extent applicants' intend to claim annealing other than "RTA" there is no support for that other annealing in the specification as originally filed.

Appropriate correction is required.

Other dependent claims like 2-5 and 25-29 are rejected at least for depending upon rejected independent claims..

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-6, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPR (Applicants' Admitted Prior Art), Doan (U.S Patent No. 5,946,595, herein after Doan) and Besser et al. (U.S. Patent No. 6,165,903, herein after Besser) for reasons previously stated and those stated below.

Applicants' arguments against the combination of AAPR and Doan are not persuasive because AAPR is directed to a silicide process of a SOI type of semiconductor device(even according to applicants' – See amendment of 2/ 4/02 page 7 lines 8-9). The Doan patent is directed to a "...method of forming a local interconnect with self-aligned titanium silicide process on a semiconductor substrate." (Dao – Abstract lines 1-2) (emphasis supplied).

Therefore both Doan and AAPR deal with silicide process on semiconductor devices, and Doan further deals with interconnects of the silicided semiconductor devices. Further it is well settled that the entire teachings of a reference are valid teachings and no (reference's) teachings should be limited to alleged primary teachings thereof.

A clear understanding and careful reading of Doan and AAPR shows beyond a shadow of doubt that one skilled in the art would look to other patents in the silicide process on semiconductor devices filed for prior art teachings

The examiner had clearly established for the record the motivation for combining the references in the O/A mailed 2/13/01 page 3 lines 18-20 and that mailed on 10/02/01 page 4 lines 7-11.

Therefore claims 23 and dependent claims 2-6 are rejected for reasons previously set out and those set forth above.

B Claims 24 –29 are rejected as being unpatentable over AAPR (Applicants' Admitted Prior Art), Doan (U.S Patent No. 5,946,595, herein after Doan) and Besser et al. (U.S. Patent No. 6,165,903, herein after Bresser) as applied to claims 23 and 2-6 above and further in view of Xiang (U.S. Patent No. 6,015,1752, herein after Xiang, cited by the applicants' in their ids of 2/4/02) for reasons previously stated and those stated below.

AAPR, Doan and Bresser disclose substantially all the steps set forth in the claims except specifically stating, "that their devices are CMOS devices". However, Xiang discloses a CMOS with source/drain silicides. In view of such teaching and the teachings of the previous references it would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify AAPR, Doan and Bresser's teachings to include the CMOS device for the unspecified MOS devices. The ordinary artisan would have been motivated to modify AAPR, Doan and Bresser in the manner describes above at least for the purpose of forming advanced deep-sub micron CMOS devices with ultra shallow junctions with thin metal silicide layers. (Xiang col. 3 lines 55-65).

The added limitations of claim 24, the semiconductor device including a p-channel MOS transistor having p-type source and drain diffusion layers and including an n-channel MOS transistor having n-channel type source and drain diffusion layers, said doping comprising doping a p-type impurity into the supplemental silicon layer that is formed over the p-channel MOS transistor and doping an n-type impurity into the supplemental silicon layer that is formed over the n-channel. (Fig. 1 # 11a , col. 4 lines 15-34).

Presently newly added claims 25-29 repeat the steps of claims 2-6 above and are rejected for the reasons stated under respective claims above.

Applicants' arguments have been fully considered and not persuasive w.r.t claims 23na d22-6 for reasons set out above and for claims 24 and 25-29 for reasons set out above and also are moot in view of above rejection..

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven H. Rao whose telephone number is 703-306-5945. The examiner can normally be reached on M-F, 8.00 to 5.00.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703- 308-0956.

Steven H. Rao

Patent Examiner

April 25, 2002



Jerome Jackson, Jr.
Primary Examiner